



# Mississippi River Hydrodynamic and Delta Management Study

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The U.S. Army Corps of Engineers and the State of Louisiana's Coastal Protection and Restoration Authority (CPRA), have initiated the Louisiana Coastal Area (LCA) Mississippi River Hydrodynamic and Delta Management Study.

The Mississippi River Hydrodynamic and Delta Management (MRHDM) Study is the first large-scale, long-term restoration assessment investigated under the LCA Program. This study will identify and evaluate a combination of large-scale management and restoration features to address the long-term sustainability of the lower Mississippi River Deltaic Plain, as authorized under Section 7003 of the Water Resource Development Act (WRDA) 2007.

### Study Location

The MRHDM Study area covers the lower Mississippi River and the surrounding deltaic regions. The hydrodynamic study effort will focus on the Mississippi River, while the delta management study effort will focus on the adjacent basins.

### Study Features

Hydrodynamic models and other forecasting tools will be used to refine current data on existing water and sediment resources in the Mississippi River that are potentially available to aid in restoring and sustaining deltaic growth in the Mississippi River Delta. These tools will also be used to assess the projected benefits and potential impacts of large-scale strategies that could be recommended for implementation and would balance the interests of ecosystem restoration, flood risk reduction, and navigation.

Specifically, these tools will be used to evaluate:

- hydraulics and the relationship of flow conditions to sediment transport,
- salinity intrusion,
- deposition and erosion, and
- the net results of these processes in river channel and distributary morphology.

Ecosystem restoration features that maximize the deposition of Mississippi River sediment in coastal areas and aid in restoring delta growth and wetland sustainability will be identified and evaluated. Large-scale river diversions, dredging, and outfall management measures will be considered.



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Study analyses could point to possible alternative navigation scenarios including the consideration of new navigation channels to the east or west of the current Mississippi River alignment. The analysis of alternative navigation channels would be limited to preliminary screening. Any navigation channel re-alignment scenarios would require, at a minimum, an additional study.

The MRHDM Study will evaluate projected benefits and potential impacts to both the natural and human environments. Tools developed for this study will also benefit future LCA Program studies and projects.

## Study Status

The Corps of Engineers and CPRA have signed a Project Management Plan and Feasibility Cost Share Agreement for the Mississippi River Hydrodynamic and Delta Management Study. Work has begun with a focus on developing processes that will be utilized by a multi-agency Project Delivery Team (PDT) to ensure successful implementation of the Mississippi River Hydrodynamic and Delta Management Study.

The PDT has drafted work plans for 5 major technical groups under the hydrodynamic study component:

- Geomorphic Assessment
- Data Collection and Analysis
- Definition of Metrics for Assessing Model Predictive Skill
- One-Dimensional Modeling
- Multi-dimensional Modeling

Near-term efforts that will be conducted include:

- National Environmental Policy Act (NEPA) public scoping meetings;
- drafting project goals, objectives, and constraints;
- assessment of the future without project landscape;
- data gap analysis;
- data collection;
- completion of the geomorphic assessment; and
- development of a one-dimensional river model to evaluate cumulative impacts of near-term LCA diversions, such as the Medium Diversion at Myrtle Grove or the Medium Diversion at White Ditch.

The PDT will use modeling results and recommendations from other large-scale coastal restoration plans (including the Louisiana Comprehensive Master Plan for a Sustainable Coast, 2012) to provide a decision-making framework for the management of a sustainable coastal ecosystem that allows for the coexistence of navigation and flood control uses while supporting the needs of Louisiana and the Nation.

Anyone seeking additional information on the Mississippi River Hydrodynamic and Delta Management Study can visit the Louisiana Coastal Area program website at [www.lca.gov](http://www.lca.gov).

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